

REMARKS

Claim 1 has been amended to more clearly define the recesses as being spaced apart from the moveable machine part as clearly seen in the figure. Accordingly, now new matter has been added.

Claim 8 has been amended to more clearly define the inner surface having calotte shells as a microstructure in order to overcome the Examiner's rejection of claim 8 under 35 USC 112, second paragraph.

The Examiner has rejected claims 1-3, 5, and 8 under 35 USC 103(a) as being unpatentable over U.S. 5,127,661 to Franson, et al. in view of U.S. 3,656,227 to Weinand. In this rejection, the Examiner has stated that Franson discloses the invention substantially as claimed but fails to disclose that the inner surface includes several lubrication bore reliefs formed as recesses with each recess extending in an axial direction from the low pressure side of the U-cup toward the inner sealing lip and the radial depth of the individual recesses decreases from the low-pressure side of the U-cup toward the inner sealing ring.

In view of this deficiency, the Examiner looks to Weinand as teaching a sealing member having a lip with recess and concludes it would have been obvious to one of having ordinary skill in the art at the time the invention was made to configure the inner surface of the lip of Franson to have recesses as taught by Weinand to provide lubricant return.

First, the Applicants submit that the combination is improper since Weinand is directed to a sealing arrangement for a rotating machine parts (see column 1, lines 13-18). The present invention, however, is directed to a sealing arrangement used for hydraulic pistons and piston rods. These two kinds of sealing arrangement are different in principal and features of these different kinds of sealing arrangements cannot be interchanged. Hence, it is not obvious to translate the features of one type of sealing arrangement to another because of the differences.

In addition, the structure taught by Weinand is entirely different than that of the present invention. As emphasized by the current amendment to the claims, the recesses of the U-cup are in a spaced apart relationship with the piston 1, whereas Weinand teaches a seal lip 16 which is in continuous circumferential contact with the surface 136 (see column 4, lines 4-5).

Thus, the recesses of Weinand being in direct contact with the surface 136 act as a pump. This pump operation would be impossible if the recesses of Weinand were not in contact with the surface 136.

Accordingly, the different Weinand structure functions in a manner entirely different from that of the recesses 25 in accordance with the present invention and therefore the combination with Franson cannot be used to establish a prima facie case of obviousness under 35 USC 103(a) as suggested by the Examiner. The Examiner is respectfully requested to withdraw the rejection of claims 1-3, 5, and 8

under 35 USC 103(a) on the basis of the Franson and Weinand references.

Claims 4 and 6-7 have been rejected by the Examiner under 35 USC 103(a) as being unpatentable over Franson and Weinand and further in view of U.S. 3,189,359 to Haberkorn. The Examiner acknowledges that Franson and Weinand fail to disclose that the outer and inner surface near the abutment is convex and accordingly looks to Haberkorn for the teaching of a seal having a U-shape with an abutment surface and an inner surface and an outer surface adjacent to the abutment surface that are convex and concludes it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the outer and inner surface of Franson and Weinand to be convex as taught by Haberkorn.

Haberkorn, while teaching a convex surface, does not fulfill the deficiencies of the Franson and Weinand combination, namely lubrication bore reliefs formed as recesses in the inner surface of the U-cup with such recesses being spaced apart from the removable machine part. Accordingly, this combination of references cannot establish a basis for a prima facie case of obviousness under 35 USC 103(a) and the Examiner is respectfully requested to withdraw the rejection of claims 4 and 6-7 under 35 USC 103(a) on the basis of Franson, Weinand, and Haberkorn.

In view of the arguments hereinabove set forth and amendment to the claims, it is submitted that each of the claims now in the application define patentable subject

matter not anticipated by the art of record and not obvious to one skilled in this field who is aware of the references of record. Reconsideration and allowance are respectfully requested.

Respectfully submitted,

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